
Appendix C: Sensitivity Analysis for the Floyds Fork Watershed

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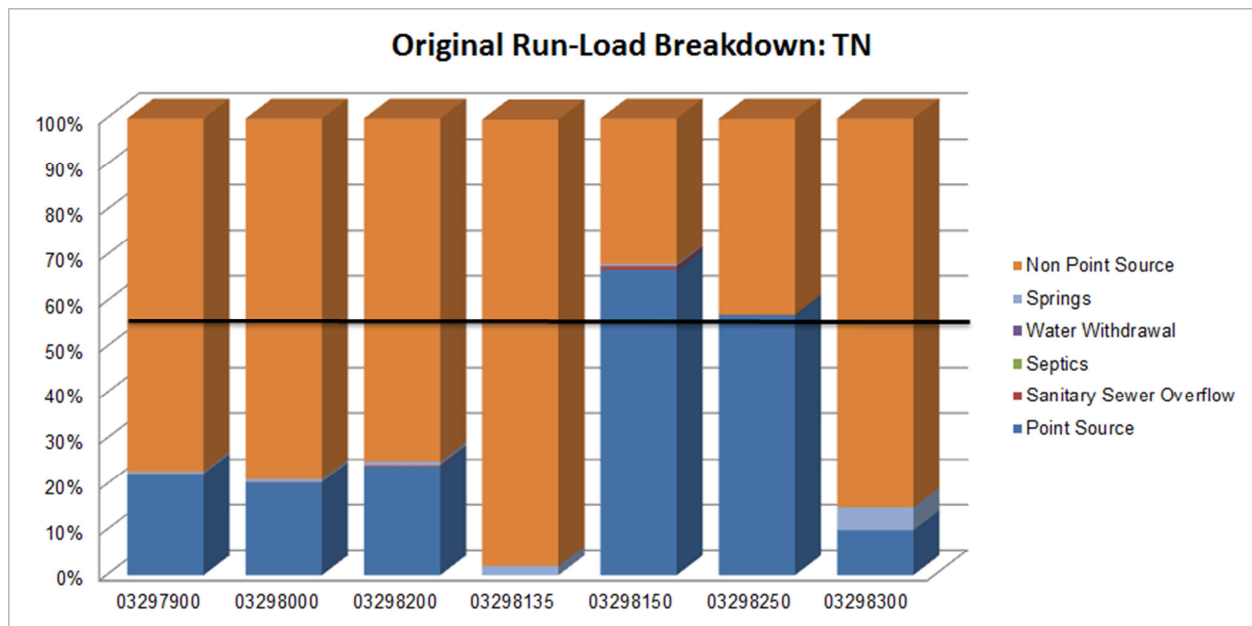


Figure C-1 Sensitivity Analysis of in-stream TN loads of the final calibrated model at the 7 USGS Flow Stations

Table C-1 Sensitivity Analysis of in-stream TN loads of the final calibrated model at the 7 USGS Flow Stations

Original Run

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Source							
Point Source	22%	20%	24%	0%	67%	57%	10%
Sanitary Sewer Overflow	0%	0%	0%	0%	1%	0%	0%
Septics	0%	0%	0%	0%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Springs	1%	1%	1%	2%	0%	0%	5%
Non Point Source	77%	79%	75%	98%	32%	43%	86%
Total	100%	100%	100%	100%	100%	100%	100%

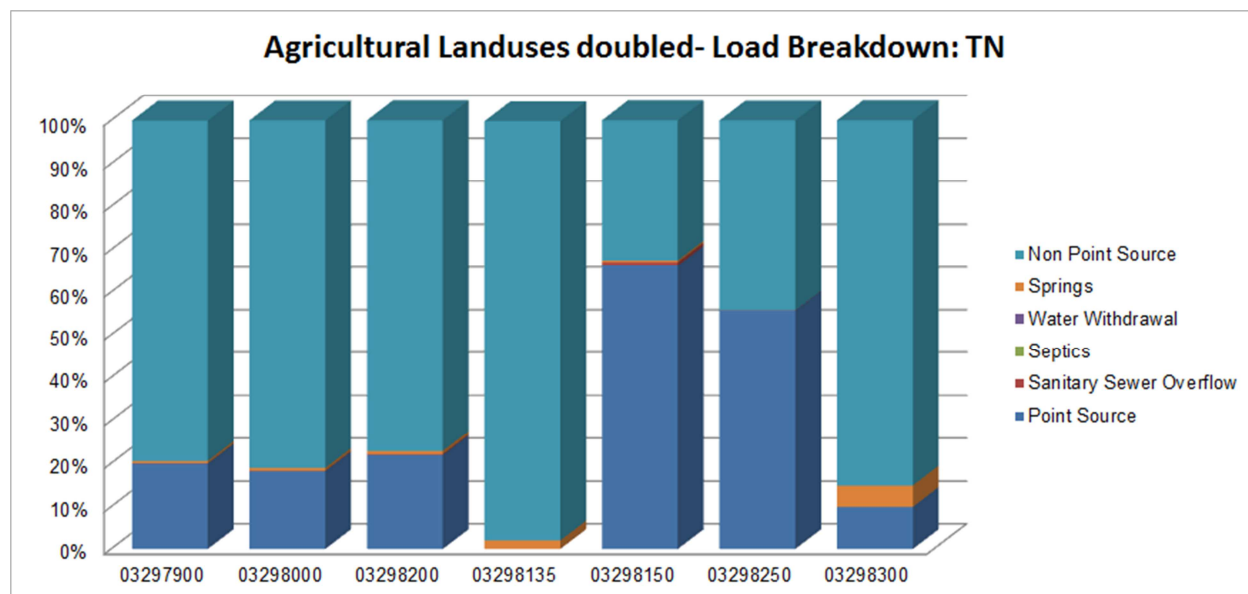


Figure C-2 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses doubled

Table C-2 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses doubled

Agricultural Landuses doubled

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Source							
Point Source	20%	18%	22%	0%	66%	56%	10%
Sanitary Sewer Overflow	0%	0%	0%	0%	1%	0%	0%
Septics	0%	0%	0%	0%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-2%
Springs	1%	1%	1%	2%	0%	0%	5%
Non Point Source	79%	81%	77%	98%	33%	44%	87%
Total	100%	100%	100%	100%	100%	100%	100%

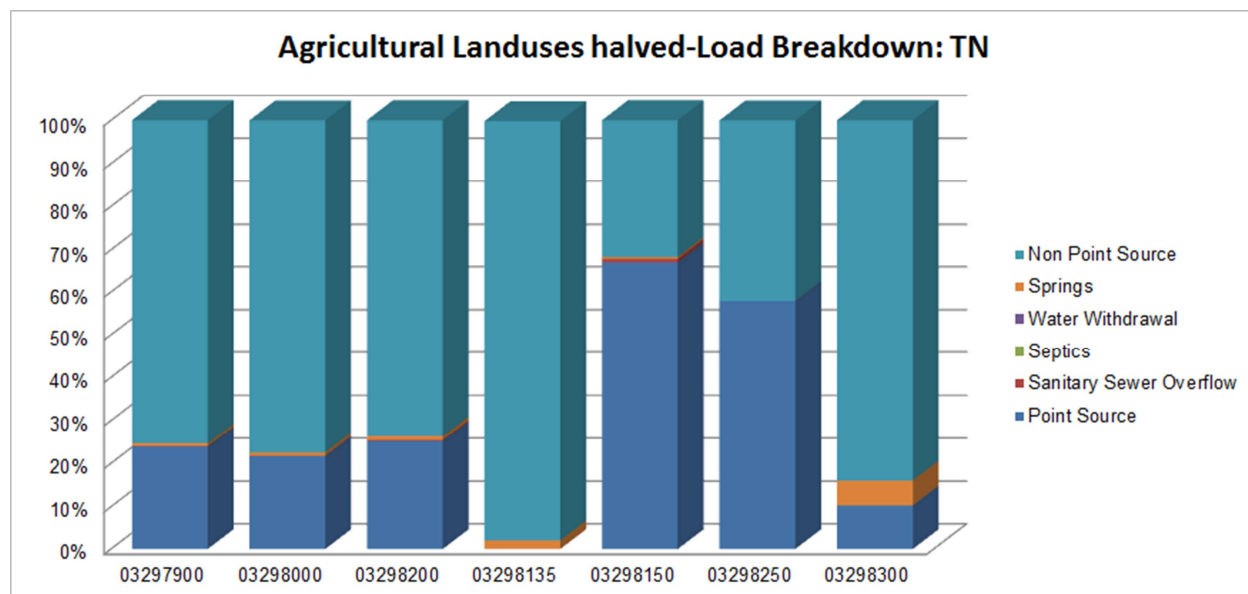


Figure C-3 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses halved

Table C-3 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses halved

Agricultural Landuses halved

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Source							
Point Source	24%	22%	25%	0%	67%	58%	10%
Sanitary Sewer Overflow	0%	0%	0%	0%	1%	0%	0%
Septics	0%	0%	0%	0%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-2%
Springs	1%	1%	1%	2%	0%	0%	6%
Non Point Source	75%	77%	74%	98%	32%	42%	86%
Total	100%	100%	100%	100%	100%	100%	100%

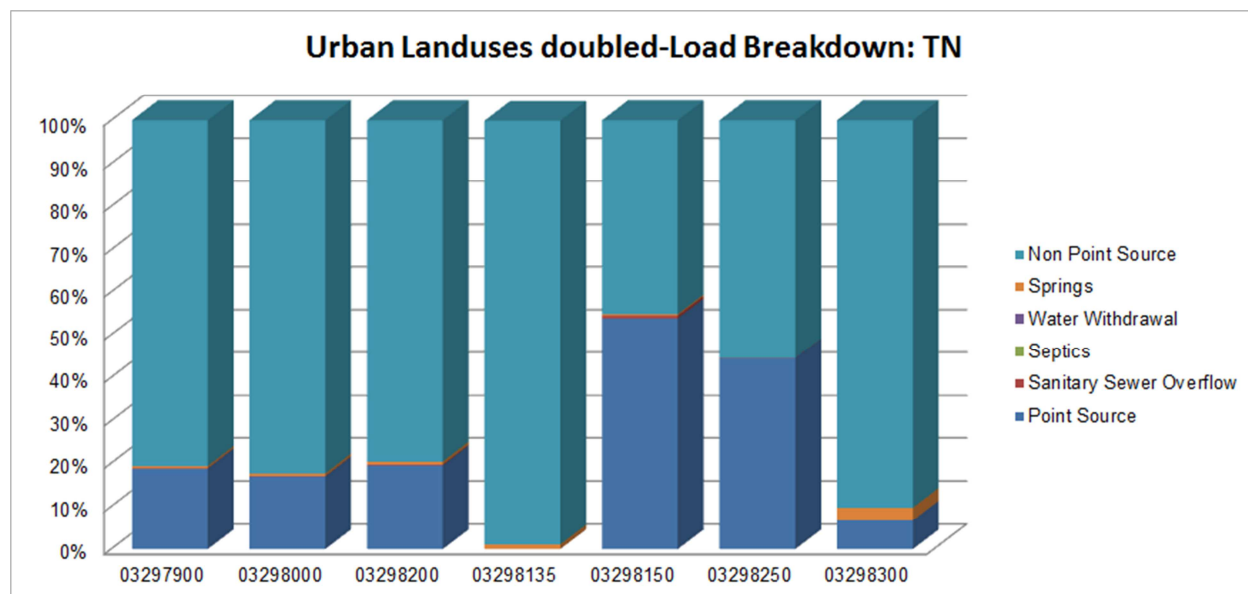


Figure C-4 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses doubled

Table C-4 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses doubled

Urban Landuses doubled

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Source							
Point Source	19%	17%	19%	0%	54%	44%	7%
Sanitary Sewer Overflow	0%	0%	0%	0%	1%	0%	0%
Septics	0%	0%	0%	0%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Springs	0%	1%	1%	1%	0%	0%	3%
Non Point Source	81%	82%	80%	99%	45%	56%	91%
Total	100%	100%	100%	100%	100%	100%	100%

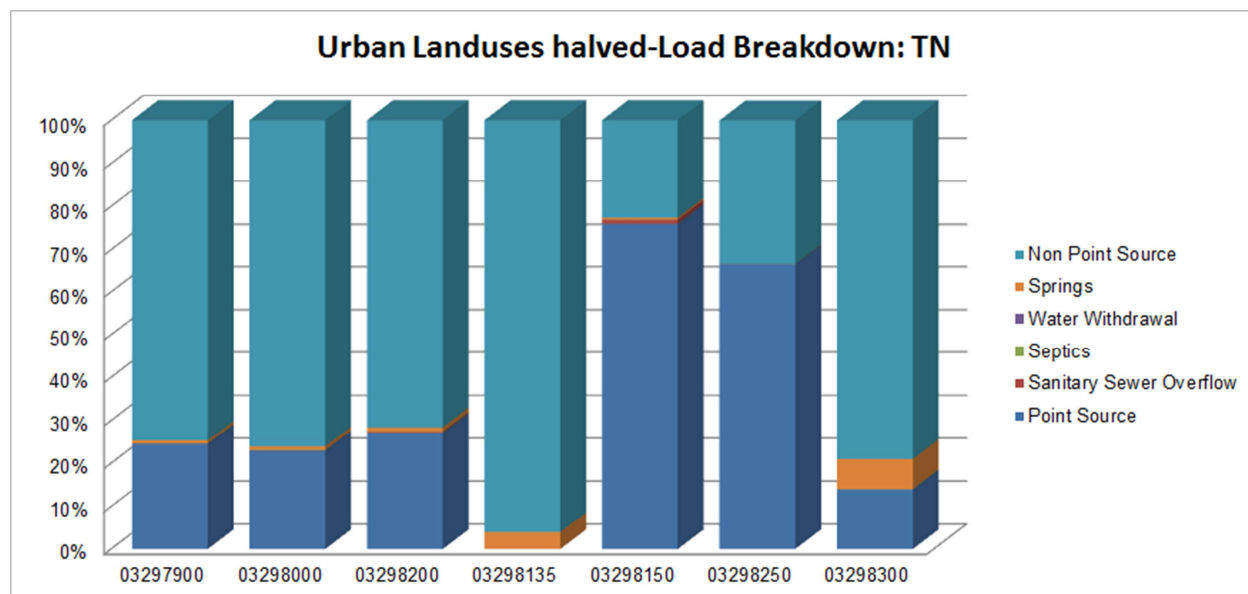


Figure C-5 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses halved

Table C-5 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses halved

Urban Landuses halved

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Source							
Point Source	24%	23%	27%	0%	76%	67%	14%
Sanitary Sewer Overflow	0%	0%	0%	0%	1%	0%	0%
Septics	0%	0%	0%	0%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-2%
Springs	1%	1%	1%	4%	0%	0%	7%
Non Point Source	75%	76%	72%	96%	23%	33%	81%
Total	100%	100%	100%	100%	100%	100%	100%

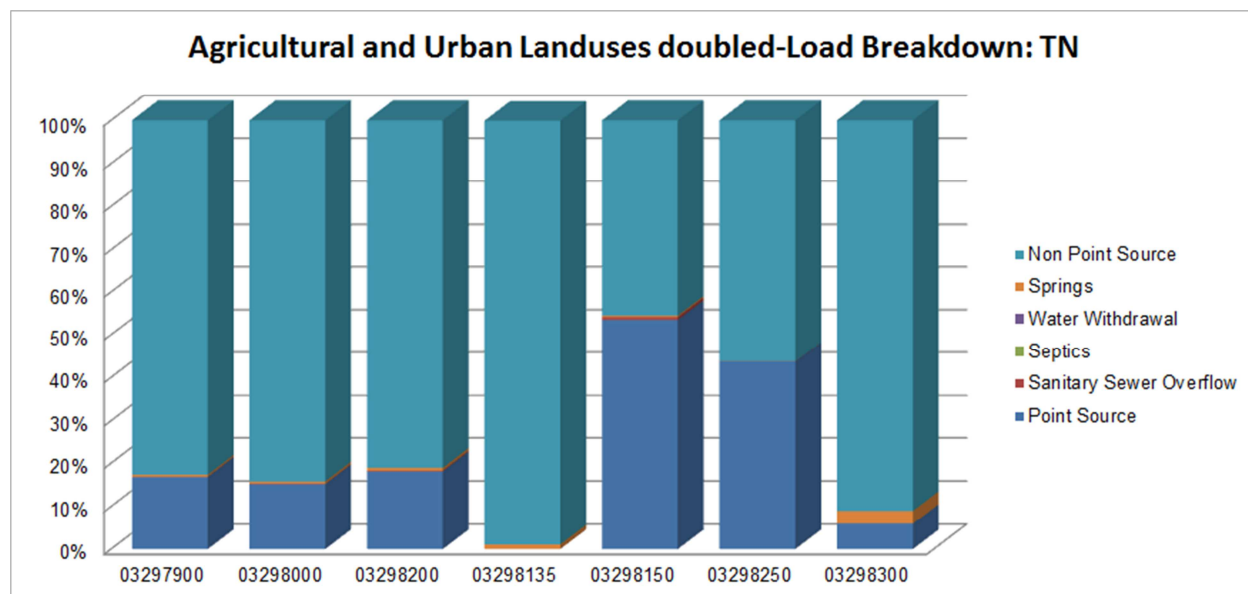


Figure C-6 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses doubled

Table C-6 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses doubled

Agricultural and Urban Landuses doubled

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Source							
Point Source	17%	15%	18%	0%	53%	44%	6%
Sanitary Sewer Overflow	0%	0%	0%	0%	1%	0%	0%
Septics	0%	0%	0%	0%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Springs	0%	1%	1%	1%	0%	0%	3%
Non Point Source	83%	84%	81%	99%	46%	56%	92%
Total	100%	100%	100%	100%	100%	100%	100%

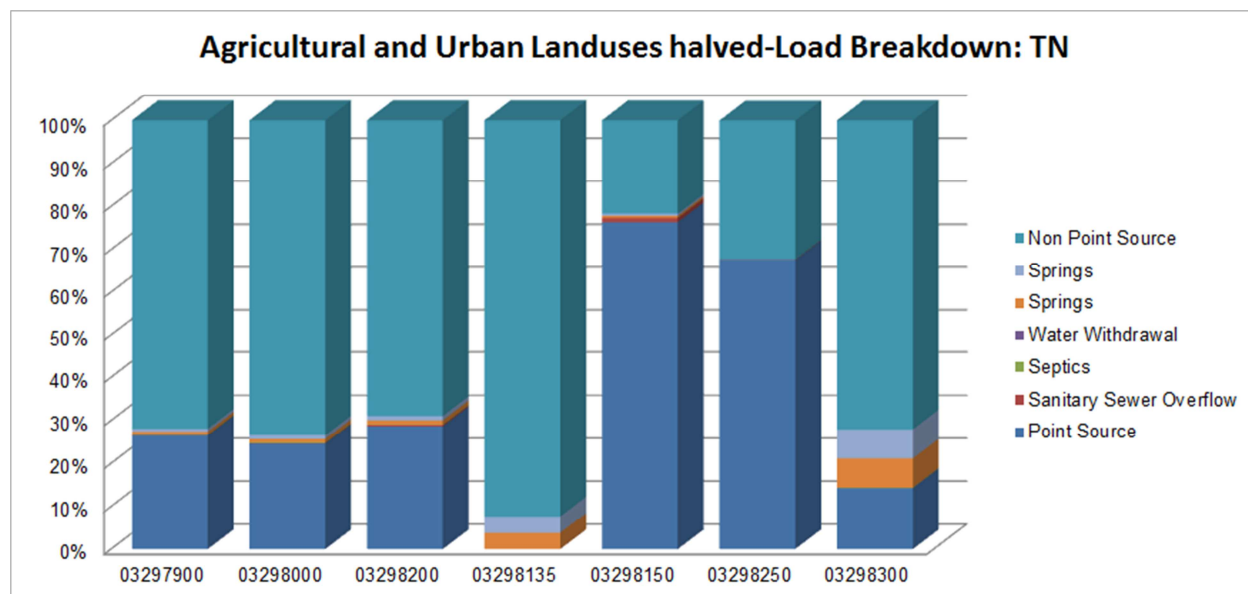


Figure C-7 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses halved

Table C-7 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses halved

Agricultural and Urban Landuses halved

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Source							
Point Source	26%	25%	29%	0%	76%	68%	14%
Sanitary Sewer Overflow	0%	0%	0%	0%	1%	0%	0%
Septics	0%	0%	0%	0%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-2%
Springs	1%	1%	1%	4%	0%	0%	7%
Non Point Source	73%	74%	70%	96%	23%	32%	81%
Total	100%	100%	100%	100%	100%	100%	100%

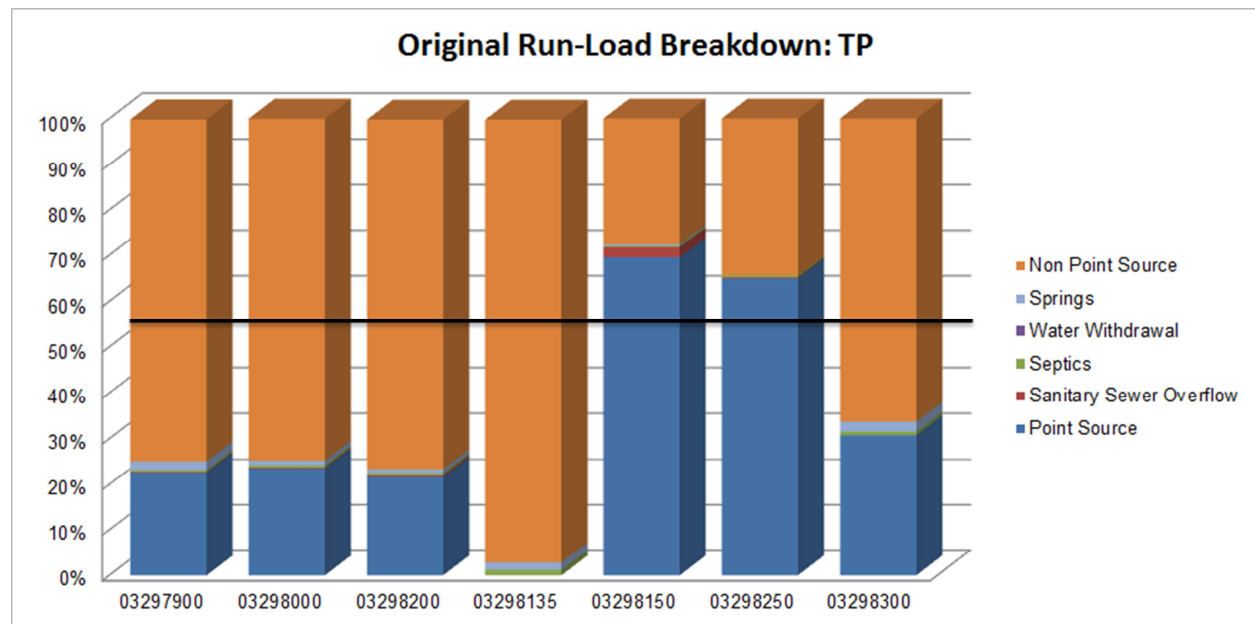


Figure C-8 Sensitivity Analysis of in-stream TP loads of the final calibrated model at the 7 USGS Flow Stations

Table C-8 Sensitivity Analysis of in-stream TP loads of the final calibrated model at the 7 USGS Flow Stations

Original Run

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Source							
Point Source	23%	24%	22%	0%	70%	65%	31%
Sanitary Sewer Overflow	0%	0%	0%	0%	2%	0%	0%
Septics	0%	0%	1%	1%	0%	0%	1%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Springs	2%	1%	1%	2%	0%	0%	2%
Non Point Source	75%	75%	76%	97%	28%	35%	67%
Total	100%	100%	100%	100%	100%	100%	100%

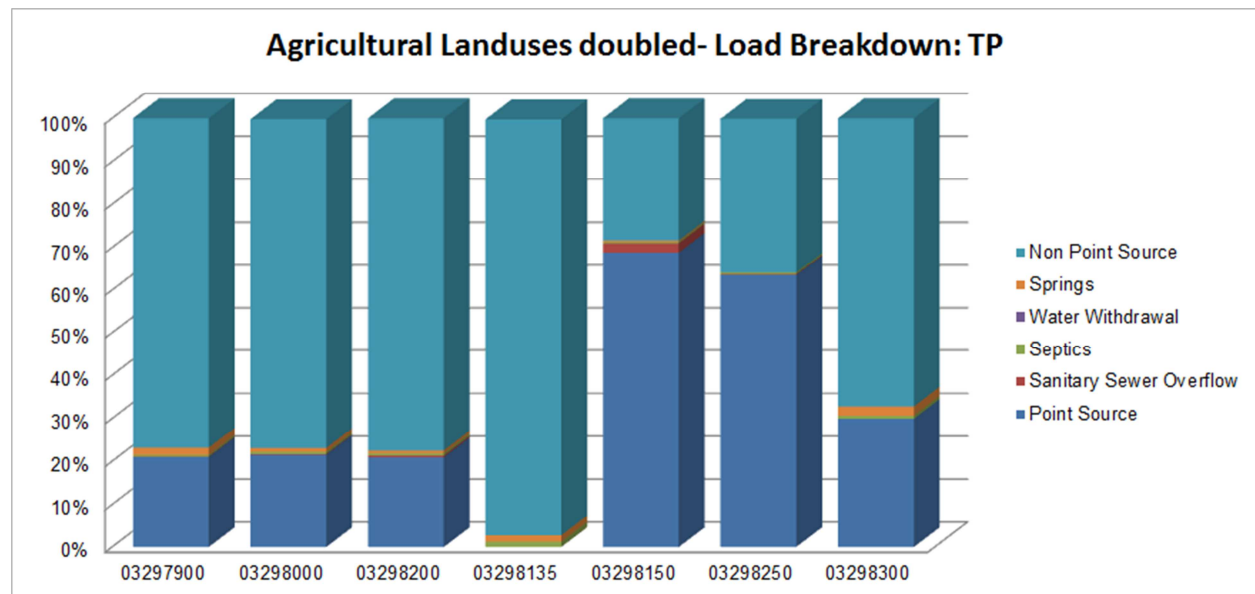


Figure C-9 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses doubled

Table C-9 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses doubled

Agricultural Landuses doubled

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Source							
Point Source	21%	22%	21%	0%	69%	64%	30%
Sanitary Sewer Overflow	0%	0%	0%	0%	2%	0%	0%
Septics	0%	0%	0%	1%	0%	0%	1%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Springs	2%	1%	1%	2%	0%	0%	2%
Non Point Source	77%	77%	78%	97%	29%	36%	68%
Total	100%	100%	100%	100%	100%	100%	100%

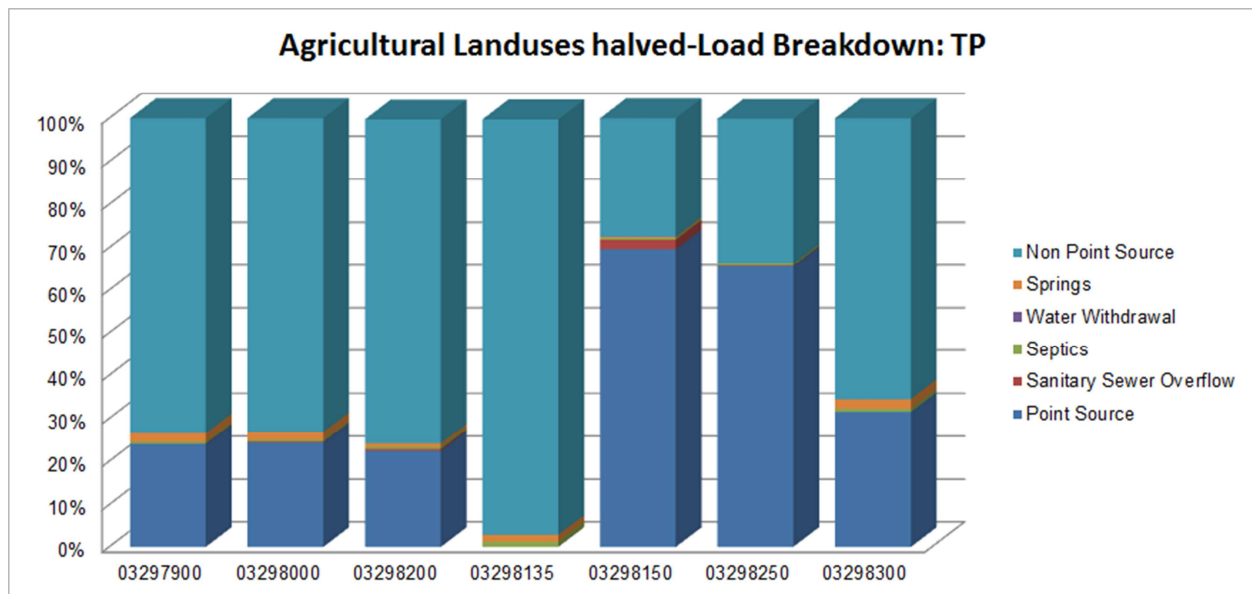


Figure C-10 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses halved

Table C-10 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses halved

Agricultural Landuses halved

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Source							
Point Source	24%	24%	22%	0%	70%	66%	32%
Sanitary Sewer Overflow	0%	0%	0%	0%	2%	0%	0%
Septics	0%	0%	1%	1%	0%	0%	1%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Springs	2%	2%	1%	2%	0%	0%	2%
Non Point Source	74%	74%	76%	97%	28%	34%	66%
Total	100%	100%	100%	100%	100%	100%	100%

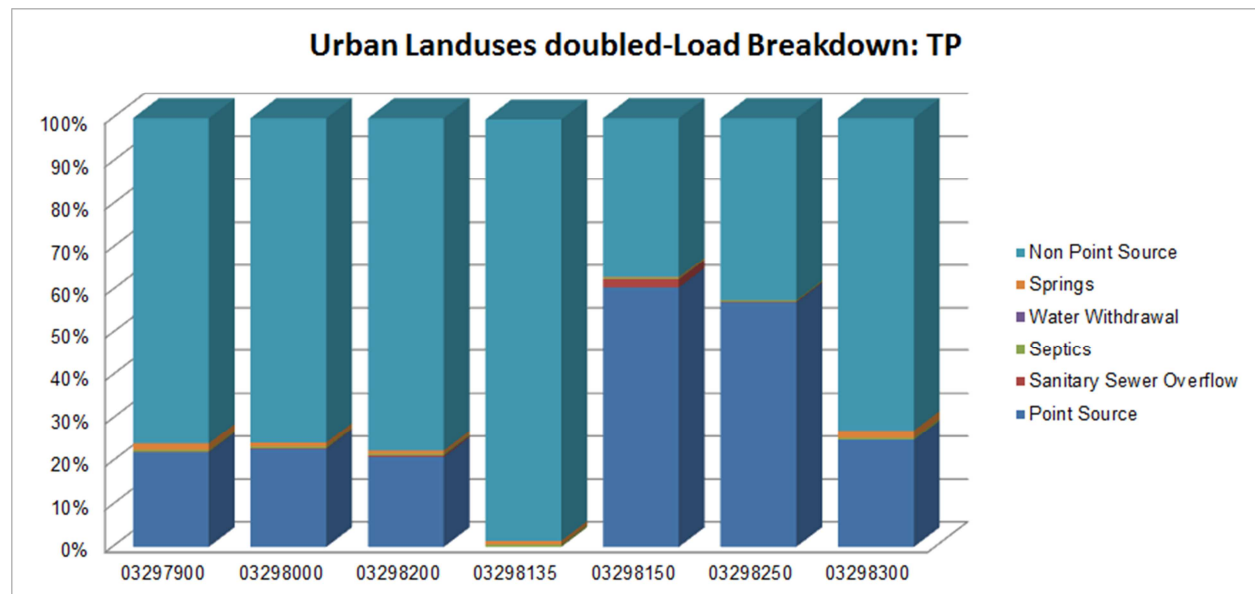


Figure C-11 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses doubled

Table C-11 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses doubled

Urban Landuses doubled

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Source							
Point Source	22%	23%	21%	0%	61%	57%	25%
Sanitary Sewer Overflow	0%	0%	0%	0%	2%	0%	0%
Septics	0%	0%	0%	1%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Springs	2%	1%	1%	1%	0%	0%	2%
Non Point Source	76%	76%	78%	98%	37%	43%	74%
Total	100%	100%	100%	100%	100%	100%	100%

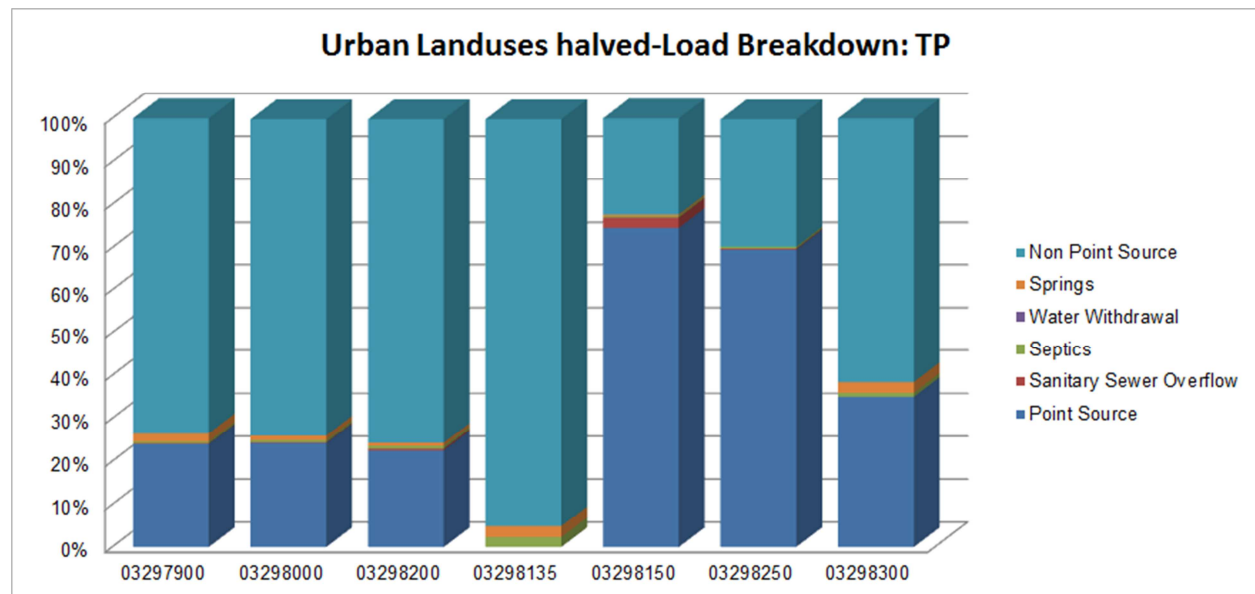


Figure C-12 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses halved

Table C-12 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses halved

Urban Landuses halved

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Source							
Point Source	24%	24%	23%	0%	75%	70%	35%
Sanitary Sewer Overflow	0%	0%	0%	0%	2%	0%	0%
Septics	0%	1%	1%	2%	0%	0%	1%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Springs	2%	1%	1%	3%	0%	0%	2%
Non Point Source	74%	74%	75%	95%	23%	30%	63%
Total	100%	100%	100%	100%	100%	100%	100%

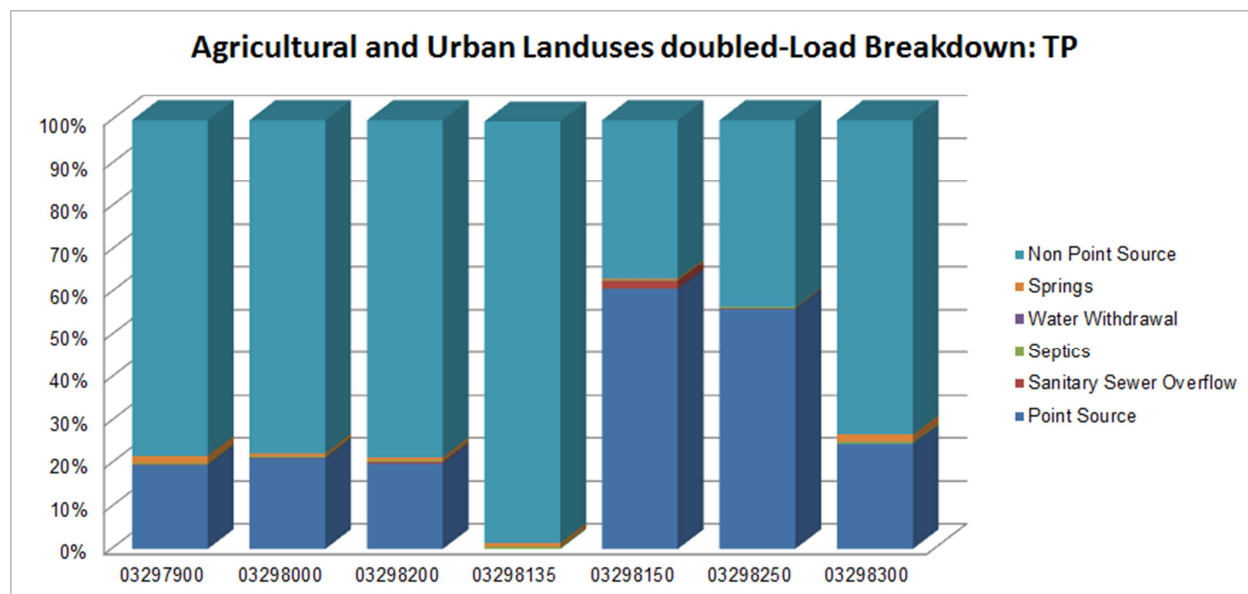


Figure C-13 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses doubled

Table C-13 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses doubled

Agricultural and Urban Landuses doubled

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Source							
Point Source	20%	21%	20%	0%	61%	56%	25%
Sanitary Sewer Overflow	0%	0%	0%	0%	2%	0%	0%
Septics	0%	0%	0%	1%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Springs	2%	1%	1%	1%	0%	0%	2%
Non Point Source	78%	78%	79%	98%	37%	44%	74%
Total	100%	100%	100%	100%	101%	100%	100%

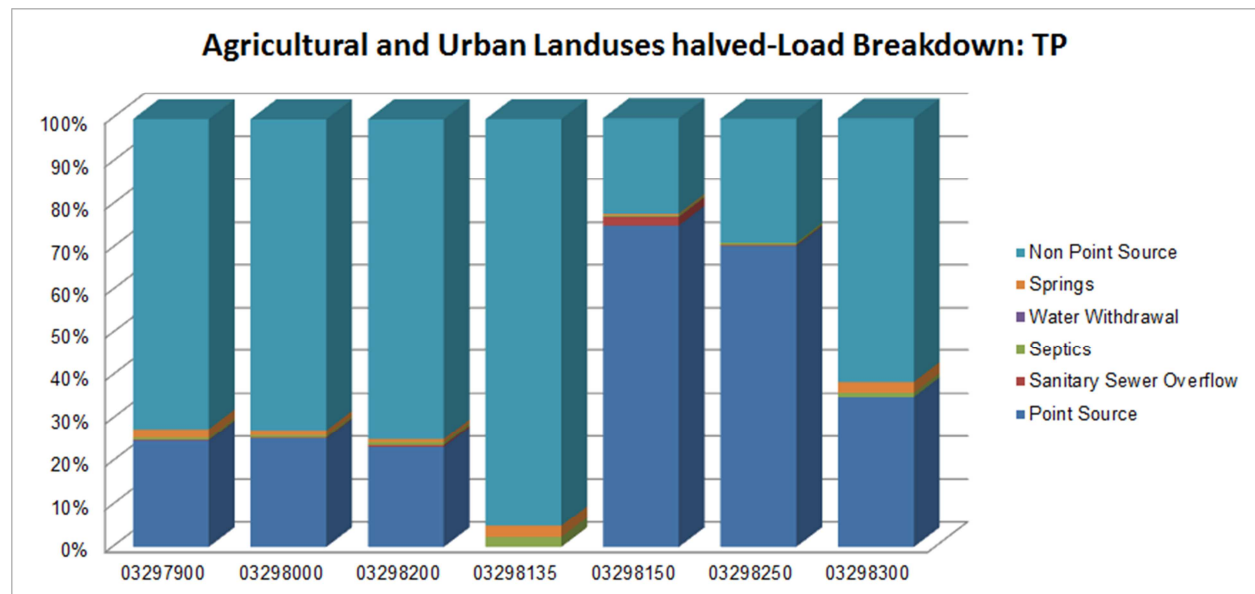


Figure C-14 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses halved

Table C-14 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses halved

Agricultural and Urban Landuses halved

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Source							
Point Source	25%	25%	23%	0%	75%	70%	35%
Sanitary Sewer Overflow	0%	0%	0%	0%	2%	0%	0%
Septics	1%	1%	1%	2%	0%	1%	1%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Springs	2%	1%	1%	3%	0%	0%	3%
Non Point Source	72%	73%	75%	95%	23%	29%	62%
Total	100%	100%	100%	100%	100%	100%	99%